Psychological sequelae of acne vulgaris

Results of a qualitative study

Parker Magin, MFM(CLIN), MGPP, FRACGP **Jon Adams,** MA, PHD **Gaynor Heading,** GRADDIPHSS, PHD
Dimity Pond, MB BS, PHD, FRACGP **Wayne Smith,** PHD, FAFPH

ABSTRACT

OBJECTIVE To investigate the psychological sequelae of acne vulgaris.

DESIGN Qualitative study using a grounded-theory approach.

SETTING General practices and specialty dermatology practices in Newcastle, Australia.

PARTICIPANTS Patients with current acne recruited from the practices.

METHOD We used semistructured interviews and recorded participants' comments verbatim. Data analysis was cumulative and concurrent throughout the data-collection period. Coding and analysis was done in the inductive tradition.

MAIN FINDINGS Interviews were conducted with 26 subjects who represented a range of ages and acne severity. Psychological morbidity was considerable. Though participants had mood and anxiety symptoms, these symptoms tended to be subsyndromal and evanescent. More prominent symptoms were embarrassment, impaired self-image, low self-esteem, self-consciousness, frustration, and anger. Some subjects thought that acne had affected their personalities permanently and adversely. Psychological sequelae were attributed to the effects of facial acne on appearance.

CONCLUSION The psychological effects of acne can be considerable. The psychological morbidity is complex and often does not conform to standard psychiatric disease criteria. Recognition and management of the psychological sequelae of acne by general practitioners is of considerable importance.

EDITOR'S KEY POINTS

- This qualitative study explores the psychological aspects of acne in a mostly general practice population in Australia.
- The most prominent psychological effects of acne were self-consciousness, embarrassment, and problems with self-esteem and self-image. Anxiety and depression, as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), were much less prominent.
- Effects were aggravated by taunts, others' scrutiny, and the feeling of being on show. Effects were attenuated by support from friends and family, camouflage with makeup, and a sense of control brought on by self-help measures.
- Although DSM-defined diagnoses were not prominent, patients seemed to feel that having acne had affected their personalities: they exhibited more avoidance behaviour and social phobia.

This article has been peer reviewed.
Full text available in English at **www.cfpc.ca/cfp**
Can Fam Physician 2006;52:978-979.

Séquelles psychologiques de l'acné vulgaire

Résultats d'une étude qualitative

Parker Magin, MFM(CLIN), MGPP, FRACGP **Jon Adams,** MA, PHD **Gaynor Heading,** GRADDIPHSS, PHD
Dimity Pond, MB BS, PHD, FRACGP **Wayne Smith,** PHD, FAFPH

RÉSUMÉ

OBJECTIF Déterminer les séquelles psychologiques de l'acné vulgaire.

TYPE D'ÉTUDE Étude qualitative à l'aide d'une théorie basé sur des données.

CONTEXTE Cliniques de médecine générale et de dermatologie à Newcastle, Australie.

PARTICIPANTS Clients de ces cliniques avec acné active.

MÉTHODE Les commentaires des participants ont été enregistrés intégralement au cours d'entrevues semi-structurées. Les données ont été analysées de façon cumulative et concurrente durant toute la période de collecte des données. Le codage et l'analyse ont été faits par méthode inductive.

PRINCIPALES OBSERVATIONS Des entrevues semi-structurées ont été obtenues de 26 sujets dont l'âge et la sévérité de l'acné variaient. La morbidité psychologique était considérable. Même si les patients présentaient des troubles de l'humeur et une certaine anxiété, ces symptômes avaient tendance à être sous-syndromiques et évanescents. Les symptômes les plus fréquents étaient la gêne, une mauvaise image de soi, une pauvre estime de soi, la timidité, la frustration et la colère. Certains sujets croyaient que l'acné avait eu un effet négatif permanent sur leur personnalité. Les conséquences psychologiques étaient attribuées aux effets de l'acné facial sur l'apparence.

CONCLUSION Les conséquences psychologiques de l'acné peuvent être considérables. La morbidité psychologique est complexe et souvent, elle ne correspond pas aux critères habituels des maladies psychiatriques. Le généraliste se doit de reconnaître et traiter les séquelles psychologiques de l'acné.

POINTS DE REPÈRE DU RÉDACTEUR

- Cette étude qualitative explorait les aspects psychologiques de l'acné chez une clientèle surtout de pratique générale en Australie.
- Les effets psychologiques les plus fréquents de l'acné étaient la timidité, l'embarras, et les problèmes reliés à l'image et à l'estime de soi. L'anxiété et la dépression, tels que définis par le DSM (*Diagnostic and Statistical Manual of Mental Disorders*), étaient beaucoup plus rares.
- Les effets étaient amplifiés par les railleries, les regards insistants des autres et la sensation de se donner en spectacle. Ils étaient atténués par le support des amis, le maquillage camouflant et la sensation de contrôle obtenue grâce à la débrouillardise personnelle.
- Même si les diagnostics répondant aux critères du DSM étaient plutôt rares, les patients semblaient croire que l'acné avait affecté leur personnalité; ils démontraient davantage de comportement d'évitement et de phobie sociale.

Cet article a fait l'objet d'une révision par des pairs.
Le texte intégral est accessible en anglais à **www.cfpc.ca/cfp**
Can Fam Physician 2006;52:978-979.

Current literature examining the psychological effects of acne is predominatingly quantitative in methodology and usually focuses on clearly defined psychiatric conditions using *Diagnostic and Statistical Manual of Mental Disorders* (DSM) or International Classification of Diseases criteria. Studies have often employed measures of depression or anxiety, or of overall psychiatric morbidity heavily oriented toward anxiety and depression, such as the General Health Questionnaire (GHQ).[1]

Some studies have found that depression is more prevalent among patients with acne than among control subjects.[2-4] Other uncontrolled studies have found rates of depression higher among those with acne than is the norm.[5-7] Both controlled[2-4,8-10] and uncontrolled[7,11,12] studies have established that anxiety frequently accompanies acne. Overall psychiatric morbidity, as measured by the GHQ[1,13,14] and other instruments,[15,16] has been found in controlled studies[15] to be higher among those with acne, and in uncontrolled studies[1,13,14,16] to be seemingly high or to correlate with severity of acne. Depression,[9,11] anxiety,[9,11,17-19] and overall psychiatric morbidity[15,20,21] have been found to improve when acne is treated (especially with isotretinoin therapy).

Qualitative studies of other skin diseases and of facial disfigurement, however, using semistructured or psychiatric interviews[22,23] and content analysis of patients' writing,[24,25] have suggested a more complex array of constructs: shame,[22,25] embarrassment,[22,24,25] diminished self-image and self-confidence,[22] self-consciousness,[22,24] annoyance,[22] confusion,[22] social anxiety or phobia,[23,25] somatization,[23] and stigmatization,[25] as well as depression and anxiety.

While some quantitative studies of acne have addressed such psychological constructs as social anxiety,[26] embarrassment,[27] self-image,[27] and self-esteem,[9,28] the instruments employed in these studies have not always been as extensively used or validated as those used for depression and anxiety.

We thought inquiry into such a complex set of psychological constructs (especially given their inherently subjective nature) might well be suited to qualitative methodology. We focused on general practices because most psychodermatologic studies have been conducted in specialty practices even though most acne is treated in general practice.[29,30] A further consideration was that acne severity has been correlated with psychiatric morbidity,[10,15,16] so patients with severe acne were more likely to be seen in specialist practices and acne patients with psychological disorders were more likely to be referred to specialists. Generalizing psychological findings from specialist settings to primary care practice, therefore, could be questionable. This study aimed to address gaps in the current literature, which focuses on specialist practice, contains few studies on non-DSM morbidity, and lacks qualitative studies.

METHODS

The study was conducted in an urban coastal region in Australia. Recruitment was by means of invitations mailed to participants from an earlier quantitative phase of the project (patients with skin diseases recruited by dermatologists and general practitioners) and invitations posted in the waiting rooms of general practitioners who had participated in the quantitative study. All patients who responded were interviewed. Recruitment continued until saturation of themes had been achieved.

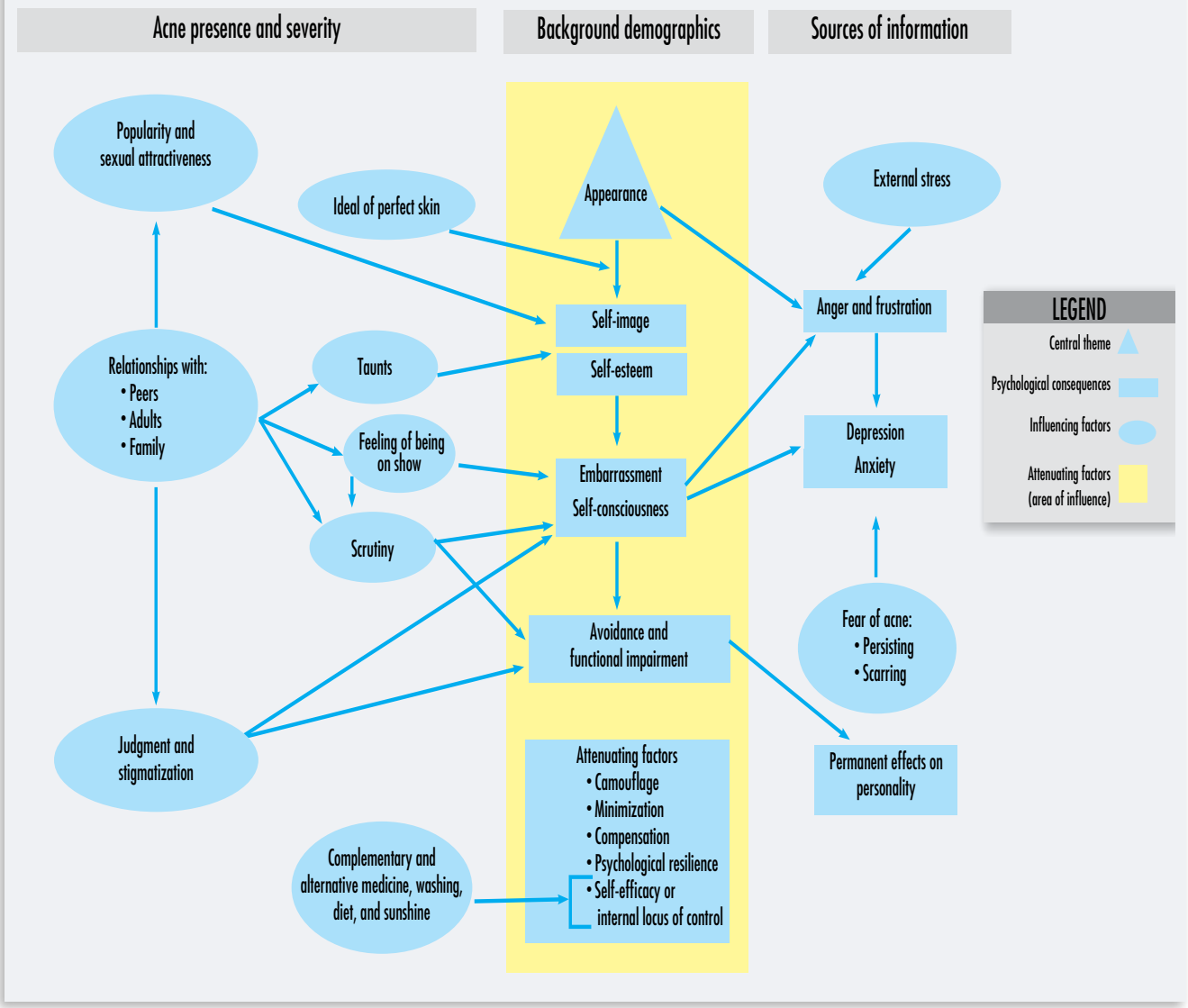
Data were collected during 26 semistructured interviews. Interviews, conducted by a single researcher (P.M.), followed a list of themes drafted by the research team. Themes were developed from both previous literature and the objective of the study.[31] The study was conducted according to a grounded-theory approach[31]; discussions were participant-led as much as possible. As data collection progressed, themes were added when new areas of interest emerged and negative cases were sought.[32]

Interviews were audiotaped with participants' consent and transcribed verbatim. The interviewer completed contact summary sheets[32] during each interview. Data analysis was cumulative and concurrent throughout data collection, reflecting the grounded-theory approach. Each transcript was coded separately by 2 members of the research team (P.M. and G.H.), and a code book was developed. Related codes were grouped into second-order themes.

Differences in researchers' perspectives were resolved by negotiation and fed back into the analysis to cross-check codes and themes and develop an overall interpretation of the data.[33] The resulting codes and themes were mapped[32] to construct a schematic representation of the interactions between acne and psychological disorders (**Figure 1**). Codes and themes reflected the data and a psychological orientation to interpretation. The schematic representation was tested against data arising in subsequent interviews.[34]

Dr Magin *is a National Health and Medical Research Council Medical Postgraduate Scholar and a Senior Lecturer in the Discipline of General Practice at the University of Newcastle in Callaghan, Australia.* **Dr Adams** *is a Senior Lecturer in Health Social Science at the Centre for Clinical Epidemiology and Biostatistics at the University of Newcastle.* **Dr Heading** *is an Associate Professor in the Broken Hill Centre for Remote Health Research at the University of Sydney.* **Dr Pond** *is a Professor of General Practice in the Discipline of General Practice at the University of Newcastle.* **Dr Smith** *is a Professor of Epidemiology at the Centre for Clinical Epidemiology and Biostatistics at the University of Newcastle.*

Figure 1. Psychological effects of acne vulgaris



The study was approved by the Human Research Ethics Committee at the University of Newcastle in Callaghan, Australia.

FINDINGS

Equal numbers of men and women attended 26 interviews that lasted from 35 minutes to 1 hour and 40 minutes. Participants ranged in age from 13 to 52 years and had acne rated 0.1 to 1.75 on the Leeds grading system[35,36] at the time of interview (many participants reported having had more severe acne in the past). Only 4 of the 26 participants were recruited from specialist practices, although several others had been treated by dermatologists in the past.

The immediate psychological consequences of acne (reduced self-esteem, poor self-image, self-consciousness, embarrassment) were felt as soon as acne appeared and were exacerbated by taunting, stigmatization, and perceptions of being scrutinized and judged. Some factors attenuated these psychological effects, notably self-efficacy, "compensation," and camouflage. These are grouped at the bottom of **Figure 1**, and their attenuating effects on morbidity are represented by shading passing across the arrows representing "causal influences" or relationships that exacerbated morbidity. It is notable that anxiety and depression are somewhat peripheral in this schematic diagram in comparison with self-consciousness, embarrassment, and other factors.

Central theme: appearance

It might seem self-evident, but subjects stressed the importance of acne's effect on appearance. One 15-year-old boy said, "Well they [pimples] don't look very attractive, and it depends on the way they look ... just looks,

all about looks." A 34-year-old woman said, "Like, yuck, you look awful, yeah. When I walk past the mirror in my bedroom and I look at myself and I think, 'Oh yuck.'"

The basic reason for the central role of appearance in subjects' impaired self-image and self-esteem might have been, at least in part, a media-generated ideal of perfect skin. Subjects were acutely aware that they failed to live up to the ideal of perfect, flawless skin portrayed in advertising, film, and television. There was a perception that this (inherently unrealistic) ideal contributed to negative psychological effects in those with acne. An 18-year-old woman said, "Well everyone on TV has really nice skin, you see … so you think that is what everyone has to be like." A 15-year-old girl added, "Society is the reason you have to be perfect, which equals clear skin. In magazines I don't think there has ever been a picture of someone with a pimple unless it was [electronically manipulated] in one for an article on pimples."

Self-perception and social anxiety

Self-image and self-esteem. The link between appearance and subjects' self-image or self-concept and self-esteem was explicit and gave rise to much of the psychological morbidity in acne patients (**Figure 1**). All subjects' self-images had been impaired to some degree. A 10-year-old girl said, "You become very focused on the acne. It's the first thing you see when you look in the mirror, instead of the rest of you." A 35-year-old woman added, "I felt it was this real identifying feature of me.… It became part of my persona, and I was a person with acne and that was how others saw me."

Not surprisingly, the effect of an acne-related self-image on their self-esteem was considerable for many subjects. The effect was global and pervasive and coloured most aspects of many subjects' lives. Some older, more self-reflective, subjects noted that acne's effect was particularly acute because of its peak prevalence during the teenage years, a time of psychosocial and sexual maturation and development of adult identity. A prominent element of self-image in the teenage years was acne's effect on self-perceived sexual attractiveness.

One 32-year-old woman said, "It's low self-esteem, and your confidence is lacking. You do tend to feel pretty down in your life, and it's hard to search for things to make you feel good and confident about yourself." "I guess it [acne] made me feel that I was less than acceptable, [that] I wasn't worthy, that I was cursed," explained a 41-year-old man.

Embarrassment and self-consciousness. Embarrassment and self-consciousness were directly linked to self-image and self-esteem. The theme of embarrassment was prominent in all subjects' responses and was seemingly easier for many subjects to articulate than, for example, dysphoria or depression or anxiety.

A 19-year-old man said, "When I had my acne [badly], I felt quite embarrassed about it, um, at the time, and, ah, it was something that occupied my mind a lot." A 32-year-old woman added, "It was just embarrassing trying to talk to people and you've got pimples and people are looking at you and you are trying to hide it as well. It makes you feel embarrassed."

These self-image and self-esteem issues and frequent feelings of embarrassment led to self-consciousness and a decrease in self-confidence. These were manifest in social situations where subjects saw themselves as being on show at parties, during musical or artistic performances, or in jobs involving contact with the public. These feelings were also related to fear of having their faces scrutinized by others.

A 17-year-old boy stated, "I'd be too busy thinking about what she [a potential girlfriend] thinks about what I look like to think of what to say," and a 15-year-old boy said, "[If] my face was in a bad state, then I was cautious when I was going out … just that you're aware of it when you go out and, you know, you don't want to draw any attention to yourself because of the condition you're in."

Taunting and being judged. Two important exacerbating factors in the relationship between acne and embarrassment and self-consciousness were taunting or teasing and a perception of being judged by others. Teasing could be psychologically damaging. A 15-year-old said, "Yeah, there's always a bit of sledging in football; there was the 'poxhead' comment, that was always good.… Yeah, 'poxhead,' that was me." A 24-year-old added: "You know, when you're 15 at school you get picked on a hell of a lot [about acne] by kids and it lowers your self-esteem.… Oh, you know, kids at school—they just tease you: things like pimple face, pumpkin, or whatever."

Many participants were uneasy that they would be judged not only as unattractive but as less worthwhile people. They even feared being thought unhealthy, unhygienic, or in the case of the subject quoted here (a nursing student), not fit to be a health professional. The word "stigma" was used infrequently, but the theme of stigmatization was apparent in discussions of judgment. One woman said: "I felt like perhaps patients would be making a judgment about me and my health and whether or not they could accept care from someone who, perhaps, didn't know how to look after [herself]." An 18-year-old woman said, "[You might be judged as] lower class, or just [as] unable to look after yourself in general."

Depression and anxiety

Mood and anxiety symptoms were common in this study, but depression and anxiety were somewhat peripheral in the map of psychological morbidity. A striking finding was that symptoms of anxiety related temporally to

experiences of acne tended to be milder and less obvious than would be required for a clinical diagnosis of major depression. At times, emotions described as depression by subjects were more consistent with frustration and anger than with clinical depression. Another notable finding was that anxiety tended to arise in anticipation of, rather than during, episodes of being on show.

Two 19-year-old men said: "I would look at the rest of my life through acne-coloured glasses and, um, think the rest of my life sucks when, of course, it didn't really ... and it was only like a sentiment that was temporary." "It wasn't a constant thought. It was just when I was looking at myself when I would feel the worst. Sometimes it was because I was getting ready [to go out], sometimes it was because there was a mirror there."

Consequences of the effects of acne

Avoidance. Consistent with findings regarding reduced self-confidence and fear of being on show were indications of avoidance behaviour. A 24-year-old man said, "My cousin had a birthday party. I didn't go to that. Part of the reason was my acne. I didn't feel comfortable with people." The linear relationship of appearance to self-image and self-esteem, then to embarrassment or self-consciousness, and then to avoidance is shown in **Figure 1**.

Permanent effects on personality. Contrary to the common perception that acne is a minor and temporary affliction of adolescence, many subjects thought that acne had had a permanent effect on them. Some subjects reported avoidance behaviour in response to their acne, and some bore evidence of avoidant personality traits. A 24-year-old man said, "I think a lot of people that have acne can't be bothered, like I can't even be bothered with people. I sort of isolate myself. I'm a bit of a hermit." A 41-year-old man added: "I guess it just turned me antisocial in a way ... having acne and not looking as attractive as I could have ... caused me to shy away from social situations, which then made me come to hate social situations."

Moderating factors

Some factors moderated the relationship between acne and psychological sequelae. Age and sex were relevant; women with late-onset acne were seen as especially likely to have sequelae. Supportive family and peer groups were generally seen as buffering the psychosocial effects of acne. Women found camouflaging their acne with makeup was effective in decreasing embarrassment and self-consciousness, while men tended to try to rationalize acne as a normal accompaniment to adolescence. Subjects of both sexes employed "compensation," which is pursuit of endeavours that compensated for their acne-affected appearance.

One 46-year-old man said, "[Y]ou compensate [for] one physical disability by trying to look different in another way.... Go to a martial arts class or go to a serious gym, not an aerobics gym, and you'll have your cleft palates and your stutterers and your acne sufferers." A 46-year-old man added, "I know I used it [music] as a compensation for my low self-esteem. ...it was a compensation for not feeling as good about myself, which the acne probably contributed toward."

A striking finding was that a sense of self-efficacy or an internal locus of control regarding acne attenuated psychological effects. Belief in the efficacy of complementary and alternative therapies (CAM), dietary manipulation, face washing, and exposure to ultraviolet light and salt water were salutary. Regarding diet and washing, this finding could be surprising because believing that lack of cleanliness and poor diet were causative factors in acne might have prompted subjects to blame themselves for the condition. Our findings suggest that the fact that cleanliness and healthy dietary practices were within subjects' control attenuated negative psychological sequelae. Similarly, CAM therapies and sun and surf were easily accessible to participants, more accessible than medical therapies.

A 24-year-old man said, "... because you felt like you are doing something to help it.... You might have some times when you were really getting down and you'd say, 'from now on I'm only eating good food and go to the beach all the time.'" A 34-year-old woman added, "I always feel better, when I suddenly feel I've got to start looking after myself again, I've got to treat myself better, [drink] more water, [eat] healthy, the whole lot, [look] after my face, [do] the routine."

The moderating of psychological sequelae by these factors is shown as the shaded areas in **Figure 1**.

DISCUSSION

Data from this study establish a coherent pattern of psychological associations with acne. To a great extent, our data and schematic illustration are in accord with previously published quantitative work in this area indicating that acne is associated with psychological morbidity. In some areas our findings differed from those in earlier work, and in some areas our findings were new.

Central role of appearance

It seems obvious that the primary concern of patients with acne would be appearance. Previous quantitative studies have focused on the psychological sequelae of acne (eg, anxiety, depression, embarrassment, shame) without considering the factors that attenuate these effects. Data from this study show that the societal ideal of perfect skin made appearance the most important

factor. Our findings were consistent with those of studies of the effects of depiction of ideals of thinness and facial perfection in advertising and the media.[37-39]

Psychiatric disease or emotional distress?

Two of the psychological effects most often associated with acne, depression and anxiety, were not dominant themes in this study. When depression or anxiety was evident, it tended to be mild, subsyndromal, evanescent, and anticipatory. Symptoms suggesting clinically defined mood or anxiety disorders were uncommon. Symptoms of emotional distress (eg, embarrassment) were common.

Embarrassment, self-consciousness, frustration, and anger are, compared with clinical depression and anxiety disorders, straightforward constructs easily linked with a single precipitant—in this case, acne. The temporal association of acne (or at least the mechanisms of being on show, being scrutinized, and being judged or taunted) and these evanescent emotional reactions is close, unlike the association of mediating mechanisms and pervasive psychiatric conditions, such as depression and anxiety.

Self-esteem and taunting

An area not previously researched is the role of taunting or teasing in the psychological sequelae of acne. Taunting was a considerable problem for a few subjects in this study and was linked with impaired self-esteem and self-image. This finding is consistent with findings in other areas, such as eating disorders and obesity, where associations between teasing and self-esteem and self-image have been studied.[40-42]

Long-term effects of acne on personality

Respondents who reported acne had permanent effects on their personalities also reported prominent avoidance behaviour. A subject for future research might be the putative association between acne and avoidant personality disorder and social phobia. Of relevance to this hypothesis is the fact that a relationship between skin disease and avoidant behaviour (if not social phobia or avoidant personality disorder) has been found for acne[26] and also for psoriasis,[43] atopic eczema,[43] vitiligo,[44] and facial disfigurement.[45] Also, psoriasis has been associated with avoidant personality traits.[46]

Self-efficacy and locus of control

Attenuation of negative psychological sequelae came from an internal locus of control or enhanced self-efficacy afforded by subjects' own health practices, such as CAM, dietary manipulation, face washing, and exposure to salt water and sun. Training in coping skills has been found to increase self-efficacy and decrease anxiety in college students concerned about their examinations.[47] The value of such training with a focus on self-efficacy for patients with acne and its psychological sequelae might be an appropriate subject for further research.

Summary of findings

Symptoms of depression and anxiety were less prominent than would be suggested by the quantitative literature, being often mild, evanescent, and subsyndromal. Most prominent were self-consciousness, embarrassment, and impaired self-esteem and self-image. While the finding of factors exacerbating the effects of acne, such as being taunted, scrutinized, and stigmatized, might have been expected, the finding of factors attenuating the effects (especially self-efficacy) was not anticipated.

Relevance for general practitioners

Our findings suggest that general practitioners should be aware of the potential psychological sequelae of acne in their patients, especially patients deemed to require specialist referral. Even though much of the psychological morbidity in this study would not qualify as DSM-IV diagnoses, the psychological suffering of these subjects was considerable. Practitioners should recognize this in patients with acne.

The novel finding that patients' own therapies, such as face washing, dietary manipulation, and CAM, attenuated the psychological sequelae of acne should be considered by physicians in managing acne patients. Evidence for the efficacy of these therapies is currently unclear.[48,49]

Implications for further research

This study indicates that qualitative methods are underused for investigating aspects of skin disease.[50] Its findings suggest that further quantitative inquiry into non-DSM psychological morbidity associated with acne is needed. The complexity of causative interactions, both exacerbating and attenuating, found in this study suggests there is likely to be considerable confounding in the relationship between acne and psychological morbidity and that future quantitative studies in this area should employ multivariate as well as univariate analyses—not found in the current literature.

Limitations

This study presents findings from a single geographic region and should be replicated in other settings. Triangulation of results with findings of quantitative studies would also be desirable before formulating and implementing clinical strategies to address the associations between acne and psychological sequelae.

Conclusion

Acne is associated with considerable psychological morbidity. This morbidity is complex and often does not conform to standard psychiatric disease criteria. It can, however, cause considerable emotional distress.

Acknowledgment

This paper was written with support from a National Health and Medical Research Council medical postgraduate scholarship and a New South Wales Primary Health Care Research Bursary. We thank **Ms Susan Goode** *and* **Ms Joanne Chappell** *for assistance with preparation of the manuscript.*

Contributors

Drs Magin, Adams, Heading, Pond, *and* **Smith** *contributed to concept and design of the study and to preparation of the manuscript submitted.* **Drs Magin, Adams,** *and* **Heading** *contributed to the analysis.* **Dr Magin** *gathered the data.*

Competing interests

None declared

***Correspondence to*: Dr Parker Magin**, *NHMRC Medical Postgraduate Scholar and Senior Lecturer, Discipline of General Practice, Newbolds Bldg, University of Newcastle, University Dr, Callaghan, NSW 2308, Australia; telephone 02 49686734; fax 02 49686727; e-mail* **parker.magin@newcastle.edu.au**

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